UNITED STATES PATENT AND TRADEMARK OFFICE

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10/569,009	02/21/2006	Tsutomu Ichinose	112857531	1746

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2009*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed
> publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2.   **Claims 1-6, 8-16, 18-23, and 25-30** are rejected under 35 U.S.C. 102(a) as

being anticipated by U.S. Patent No. 7,203,147 B2 to *Kawakami et al.*

As to **claims 1, 18 and 29**, *Kawakami* discloses an information recording

processing device, method and information recording medium storing a computer

program for performing an information recording process, comprising: a modulated data

generating unit (15) and step for generating a modulated recording frame by performing

data modulation processing on data to be recorded (Fig. 17, column 25, lines 8-10),

where modulation generation unit (15) performs the step of modulation; recording frame

characteristic determining means for determining a data characteristic of constituent

data of an additional data-corresponding recording frame, wherein said data

characteristic represents a state obtained from said additional data-corresponding

recording frame (Fig. 14, and 16, column 16, lines 18-23, columns 14-15, lines 66-13),

where the memory transfer controller (3) and the cluster buffer memory (4) determine

which frame is in effect and preamble and postamble frames have different

characteristics as they are used for different states such as PLL settlement, signal

amplitude control and signal offset control; and an additional data-corresponding data

controlling unit and step for controlling constituent bits of a data-changeable data part

on a basis of: (i) a constituent bit value of additional data; and (ii) the data characteristic

of the constituent data of said additional data-corresponding recording frame (Fig. 16,

column 16, lines 18-23, Fig. 14, columns 14-15, lines 66-13), where the memory

transfer controller (3) and the cluster buffer memory (4) control which the additional

data-corresponding data or the preamble and suffix frames are used based on the state

of the frames or data-corresponding data.

As to **claims 2, 9, 19, and 26**, *Kawakami* discloses the information recording

processing device and method, wherein in said additional data-corresponding data

controlling unit and step, and data decoding unit and step, the data part whose

constituent bits are controlled is user control data (UCD) (Fig. 7, column 13, lines 31-

35), where a 576-bye user control data is used.

As to **claims 3, 10, 13, 20 and 27**, *Kawakami* discloses the information

reproduction processing device, information recording medium, and recording process

method, wherein the first data characteristic of constituent data of said additional data-

corresponding recording frame is a characteristic of whether parity of the constituent

data of the recording frame is even parity or odd parity (Fig. 5, column 13, lines 21-25),

where the Reed-Solomon parity code determines whether the recording frame is an

even or odd parity, and said additional data-corresponding data controlling unit and step

controls the constituent bits of the data-changeable data part on a basis of two

conditions of whether the constituent bit value of said additional data is 0 or 1 and

whether the parity of the constituent data of said additional data-corresponding

recording frame is even parity or odd parity (Fig. 11, column 14, lines 9-14), where the

next-generation MD2 system is the controlling unit and the 18-bit error-correcting parity

code determines whether the additional data is a 0 or a 1; said additional data decoding

unit and step obtains the additional data constituent bit information on a basis of two

data characteristic determinations of whether the parity of the constituent data of said

additional data- corresponding recording frame is even parity or odd parity and whether

parity of constituent data of the specific user control data is even parity or odd parity

(Column 9, lines 30-39), where the Viterbi decoding method is used which provides a

decoding unit and RLL or run length parity preserve/prohibit rmtr, determines whether

the parity is even or odd; and said user control data has the data characteristic

determined according to two conditions of whether the constituent bit value of said

additional data is 0 or 1 and whether the parity of the constituent data of said additional

data-corresponding recording frame is even parity or odd parity (Fig. 5 and 7, column

13, lines 21-25, 31-35), where user control data is used in determining the parity by the

Reed-Solomon parity code.

As to **claims 4 and 21**, *Kawakami* discloses the information recording processing

device and method, wherein said additional data-corresponding data controlling unit and

step performs control to set parity of the data-changeable data part to one of odd parity

and even parity (Fig. 11, column 14, lines 9-14, where the next-generation MD2 system

is the controlling unit and the 18-bit error-correcting parity code controls whether the

additional data is odd or even.

As to **claims 5, 15 and 22**, *Kawakami* discloses the information recording

processing device, medium and processing method, wherein said additional data is set

and stored as constituent information of at least one of encryption key information,

encryption key generating information, content reproduction control information, and

content copy control information for contents stored on said information recording

medium (Fig. 54, column 39, lines 38-42), where the encryption unit (72) generates key

information (74).

As to **claims 6, 16, and 23**, *Kawakami* discloses the information recording

processing device, recording medium, and processing method, wherein said modulated

data generating unit and step generates the modulated recording frame by performing a

data conversion process satisfying RLL (1, 7) as a run length rule (Column 9, lines 30-

35), where RLL (1,7)PP or 1-7pp modulation is used.

As to **claim 8**, *Kawakami* discloses an information reproduction processing

device for reproducing information stored on an information recording medium, said

information reproduction processing device comprising: a demodulating unit (24) for

demodulating data read from the information recording medium; and an additional data

decoding unit for: (a) determining a first data characteristic of an additional data-

corresponding recording frame, wherein said first data characteristic represents a state

obtained from said additional data-corresponding recording frame (Fig. 14 and 17,

columns 14-15, lines 66-13, column 23, lines 62-67), where based on the characteristics

in the preamble and postamble frames, the different states are determined such as PLL

settlement, signal amplitude control and signal offset control and this is processed by

EFM demodulation unit (24); (b) determining a second data characteristic of a specific

user control data read from the information recording medium (Fig. 7, column 13, lines

31-35), where the BIS data code includes user control data; and (c) obtaining additional

data constituent bit information on a basis of: (i) said first determined data characteristic

which represents the state obtained from said additional data-corresponding recording

frame; and (ii) said second determined data characteristic of said specific user control

data (Fig. 17, columns 23-24, lines 50-3), where the EFM demodulation unit (24) and

ACIRC decoder (25) receive a signal from RF amplifier (21) from disc (90) and the EFM

demodulation unit (24) and ACIRC decoder (25) decode and demodulate the bit

information.

As to **claims 11 and 28**, *Kawakami* discloses the information reproduction

processing device and method, wherein at least one of encryption key information,

encryption key generating information, content reproduction control information, and

content copy control information for contents stored on said information recording

medium is generated on a basis of the obtained additional data constituent bit

information (Fig. 54, column 39, lines 38-42), where encryption unit (72) generates key

information (74).

As to **claim 12**, *Kawakami* discloses an information recording medium storing:

modulated data based on a plurality of recording frames (Fig. 17, column 25, lines 8-

10), where modulation data generating unit (15) modulates the data; and user control

data having a data characteristic determined on a basis of a constituent bit value of

additional data and a data characteristic of constituent data of a specific additional data-

corresponding recording frame selected from the plurality of recording frames, wherein

said data characteristic represents a state obtained from said specific additional data-

corresponding recording frame (Fig. 7, column 13, lines 31-35), where user control data

has 576-bytes, which is several bits and based on the value of the bits in the frames the

state of the frame is determined.

As to **claim 14**, *Kawakami* discloses the information recording medium, wherein

the data characteristic determined for said user control data is a data characteristic of

whether parity of constituent data of said user control data is even parity or odd parity

(Fig. 5, column 13, lines 21-25), where the Reed-Solomon parity code determines

whether the recording frame is even or odd parity, and the user control data having the

parity determined on a basis of the constituent bit value of said additional data and the

data characteristic of the constituent data of the specific additional data- corresponding

recording frame selected from said plurality of recording frames is stored (Fig. 5 and 7,

column 13, lines 21-25, 31-35), where user control data is used in determining the parity

by the Reed-Solomon parity code.

As to **claim 25**, *Kawakami* discloses an information reproduction processing

method for reproducing information stored on an information recording medium, said

information reproduction processing method characterized by comprising: a

demodulating step of demodulating data read from the information recording medium

(Fig. 17, column 23, lines 62-67), where demodulation unit (24) performs the

demodulation step; and an additional data decoding step of determining a first data

characteristic of an additional data-corresponding recording frame, wherein said first

data characteristic represents a state obtained from said additional data-corresponding

recording frame (Fig. 14, columns 14-15, lines 66-13), where based on the

characteristics in the preamble and postamble frames, the different states are

determined such as PLL settlement, signal amplitude control and signal offset control;

and determining a second data characteristic of a specific user control data read from

the information recording medium (Fig. 7, column 13, lines 31-35), where the BIS data

code includes user control data; and obtaining additional data constituent bit information

on a basis of the two determined data characteristics (Fig. 17, columns 23-24, lines 50-

3), where the EFM demodulation unit (24) and ACIRC decoder (25) receive a signal

from RF amplifier (21) from disc (90) and the EFM demodulation unit (24) and ACIRC

decoder (25) decode and demodulate the bit information.

As to **claim 30**, *Kawakami* discloses an information recording medium storing a

computer program for reproducing information stored on an information recording

medium, said computer program structured to cause an apparatus to: demodulate data

read from the information recording medium; and determine: (i) a first data characteristic

of an additional data-corresponding recording frame, wherein said data characteristic

represents a state obtained from said additional data-corresponding recording frame

(Fig. 14 and 17, columns 14-15, lines 66-13, column 23, lines 62-67), where based on

the characteristics in the preamble and postamble frames, the different states are

determined such as PLL settlement, signal amplitude control and signal offset control

and this is processed by demodulating unit (24); and (ii) a second data characteristic of

a specific user control data read from the information recording medium (Fig. 7, column

13, lines 31-35), where the BIS data code includes user control data; and obtain

additional data constituent bit information on a basis of the two determined data

characteristics (Fig. 17, columns 23-24, lines 50-3), where the EFM demodulation unit

(24) and ACIRC decoder (25) receive a signal from RF amplifier (21) from disc (90) and

the EFM demodulation unit (24) and ACIRC decoder (25) decode and demodulate the

bit information.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   **Claims 7, 17 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent No. 7,203,147 B2 to *Kawakami et al.* in view of U.S. Patent No.

5,986,987 to *Taguchi et al.*

As to **claims 7, 17 and 24**, *Kawakami* is deficient in disclosing the information

recording processing device, recording medium, and recording processing method,

wherein said modulated data generating unit performs a modulated recording frame

generating process including a process of conversion of two-bit information into three-bit

information.

However, *Taguchi* discloses the information recording processing device,

recording medium, and recording processing method, wherein said modulated data

generating unit (11) performs a modulated recording frame generating process including

a process of conversion of two-bit information into three-bit information (Fig. 6, columns

7-8, lines 64-1), where modulator (11) converts the two-bit data to three-bit data.

At the time of invention, it would have been obvious to a person of ordinary

skilled in the art to have modified the modulated data generating unit as taught by

Kawakami by including that the modulator converts two-bit data to three-bit data as

taught by *Taguchi*. The suggestion/motivation would have been in order for the data to

be an accordance with a rule such that the 1/7 modulation of data is met in order to

meet the partial response class I characteristics (Taguchi, columns 7-8, lines 64-4).

Response to Arguments

5.   Applicant's arguments filed 3/19/09 have been fully considered but they are not

persuasive.

First Applicant argues, with respect to claims 1, 12, 18 and 29, on page 11, lines

14-22 and page 13, lines 12-19, that *Kawakami* is deficient in disclosing, "recording

frame characteristic determining means for determining a data characteristic of

constituent data of an additional data-corresponding recording frame, wherein said data

characteristic represents a state obtained from said additional data-corresponding

recording frame; and an additional data-corresponding data controlling unit for

controlling constituent bits of a data-changeable data part on a basis of: a constituent bit

value of additional data; and the data characteristic of the constituent data of said

additional data-corresponding recording frame".

Examiner disagrees as *Kawakami* discloses "recording frame characteristic

determining means for determining a data characteristic of constituent data of an

additional data-corresponding recording frame, wherein said data characteristic
represents a state obtained from said additional data-corresponding recording frame"
(Fig. 14, and 16, column 16, lines 18-23, columns 14-15, lines 66-13), where the
memory transfer controller (3) and the cluster buffer memory (4) determine which frame
is in effect and preamble and postamble frames have different characteristics as they
are used for different states such as PLL settlement, signal amplitude control and signal
offset control "and an additional data-corresponding data controlling unit for controlling
constituent bits of a data-changeable data part on a basis of: a constituent bit value of
additional data; and the data characteristic of the constituent data of said additional
data-corresponding recording frame" (Fig. 16, column 16, lines 18-23, Fig. 14, columns
14-15, lines 66-13), where the memory transfer controller (3) and the cluster buffer
memory (4) control which the additional data-corresponding data or the preamble and
suffix frames are used based on the state of the frames or data-corresponding data.

Second, Applicant argues, with respect to claims 8, 25 and 30, on pages 13-14,
lines 20-3 and page 15, lines 13-20, that *Kawakami* is deficient in disclosing,
"determining a first data characteristic of an additional data-corresponding recording
frame, wherein said first data characteristic represents a state obtained from said
additional data-corresponding recording frame".

Examiner disagrees as *Kawakami* discloses "an additional data decoding unit for
determining a first data characteristic of an additional data-corresponding recording
frame, wherein said first data characteristic represents a state obtained from said
additional data-corresponding recording frame" (Fig. 14 and 17, columns 14-15, lines

66-13, columns 23-24, lines 50-3), where based on the characteristics in the preamble

and postamble frames, the different states are determined such as PLL settlement,

signal amplitude control and signal offset control and the data decoding unit is ACIRC

decoder (25).

Third, Applicant argues, with respect to claims 7, 17 and 24, on page 16, lines 8-

29, that it would have not been obvious to one of ordinary skilled in the art to have

combined *Kawakami* and *Taguchi*. Examiner disagrees.

In response to applicant's argument that the examiner's conclusion of

obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon

hindsight reasoning. But so long as it takes into account only knowledge which was

within the level of ordinary skill at the time the claimed invention was made, and does

not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA

1971).

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Aneeta Yodichkas whose telephone number is (571)

272-9773. The examiner can normally be reached on Monday-Thursday 8-5,

alternating Fridays, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Andrea Wellington can be reached on (571) 272-4483. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jorge L Ortiz-Criado/

Primary Examiner, Art Unit 2627

/A.Y./
6/3/09